



THE FRONT COVER depicts examples of each of the three basic levels of application tooling supplied by AMP to customers. The hand tool is one of many different manual, pneumatic and hydraulic tools available. The "stripper-crimper" machine is one of a number of semi-automatic bench machines that crimps connection devices to wires or stakes them to circuit boards. The AMPOMATOR machine is one of several that automatically measures, cuts, and strips the wire and applies connections. With this increasingly broad range of tooling, customers in each of our diverse markets can usually find the exact tool or machine required—from a precision hand tool for airframe wiring to high-speed production of wire leads for appliances or TV sets.

**ON THIS PAGE** are just a few of the many thousands of different types and sizes of AMP electrical terminals, splices, and contacts applied by our customers with AMP application tooling.

### **Corporate Profile**

PRODUCTS

**Programming Systems** 

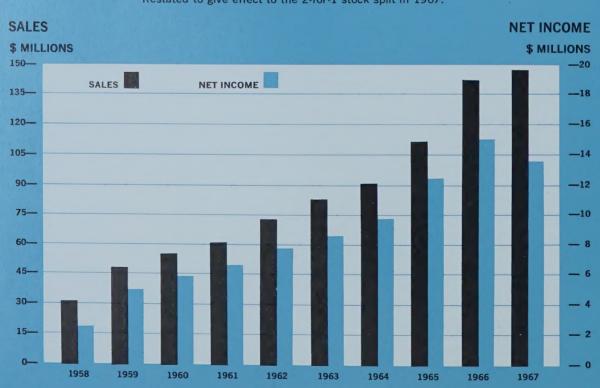
Power "Packages"

GENERAL—AMP Incorporated, founded in 1941, has its PAGES headquarters in Harrisburg, Pennsylvania. It has a Puerto Rican manufacturing affiliate, Pamcor, Inc., owned by identical shareholders. AMP now has 12 wholly-owned MARKETS subsidiaries: marketing companies in the United States and Canada; and foreign manufacturing and sales subsidiaries in Mexico, Australia, Japan and seven European countries-France, Great Britain, Holland, Italy, West HIGHLIGHTS AND PRESIDENT'S LETTER—Sales up 3% to \$146.5 million; income down 6% before a devaluation loss, after which net income totaled \$13.7 million or TEN YEAR SUMMARY AND FINANCIAL—At December 31, 1967, assets of \$117.1 million, long-term debt of \$15.5 million and shareholders' equity of \$73.7 million..................4-5 OPERATIONS—The major portion of AMP's research, engineering and manufacturing facilities are within a fifty-mile radius of its General Offices at Harrisburg, Pennsylvania. Other operating facilities are located in North Carolina, Florida, and at the various subsidiary Computer & Data Processing MARKETS—Throughout the world, AMP products are marketed directly to thousands of customers for use in the manufacture, maintenance and repair of the products and equipment of most industries-including aerospace and military electronics, computer and data processing, consumer goods, and electrical equipment and trans-**PRODUCTS**—AMP is a leading producer of solderless terminals, splices, multiple and coaxial connectors and other wiring devices, and the application tooling to pressure-crimp these devices to electric wires. It also produces patchcord and card programming systems, capacitor **Electrical & Transportation** products, and other electronic components. There are FINANCIAL STATEMENTS—All statements and statistics, unless otherwise noted, include AMP, its subsidiaries Maintenance, Modernization

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POR MUR VEAR	1967	1966	1965
Net sales	6,469,000 \$:	141,817,000	\$110,942,000
Income before income taxes and loss	υ,409,000	141,017,000	p110,542,000
on devaluation \$ 2	3,883,000 \$	27,464,000	22,516,000
Net income before loss on devaluation \$ 1	4,134,000 \$	15,025,000	12,448,000
Per share*	\$1.16	\$1.23	\$1.02
Loss on devaluation of foreign assets \$	481,000	<del>-</del>	_
Net income	3,653,000 \$	15,025,000	12,448,000
Per share*	\$1.12	\$1.23	\$1.02
Cash dividends	4,391,000 \$	3,652,000	3,037,000
Per share*	36¢	30¢	25¢
Earnings reinvested in the business \$	9,262,000 \$	11,373,000	9,411,000
Capital expenditures \$ 1	5,977,000 \$	17,136,000	11,817,000
Depreciation\$	6,966,000 \$	5,609,000	4,178,000
AT DECEMBER 31			
Backlog of unfilled orders \$ 2	9,000,000 \$	30,400,000	22,900,000
Working capital \$ 4	6,022,000 \$	35,257,000	28,645,000
Shareholders' equity \$ 73	3,741,000 \$	64,283,000	53,026,000
Shares of stock outstanding*	2,206,441	12,172,312	12,149,404
Number of shareholders	6,439	6,465	6,233
Number of employees	8,260	8,735	7,100

<sup>\*</sup>Restated to give effect to the 2-for-1 stock split in 1967.



#### To the Shareholders



S. S. Auchincloss, left: U. A. Whitaker, center; and G. A. Ingalls. right; viewing the newest fully automatic wire terminating machine.

In 1967 we experienced a small sales growth of just over 3% but, for the first time in ten years, earnings declined. The decline was limited—about 6% to \$1.16 per share before deducting a nonrecurring loss on the devaluation of the British and Spanish currencies. After this charge of 4¢ per share, net income amounted to \$1.12 per share compared to the record \$1.23 per share in 1966. As we pointed out in earlier reports, this decline in income was due principally to a sudden ending of the above-average sales growth which began in 1965 and ended in early 1967. This created an imbalance between current operations and the rate of shipments, thus temporarily reducing operating profits.

The year-end backlog of unfilled orders at \$29.0 million was not much below the all-time high of \$30.4 million at the start of 1967. In 1966, we reported that the greatest gains in our sales were to the computer and data processing companies, the consumer goods manufacturers and the electrical equipment industries. In 1967, these same three markets experienced a softening of final user demand coupled with an excess inventory situation. Consequently, our domestic sales remained at essentially 1966 levels. In addition, some of our larger foreign subsidiaries were operating in level or declining economies such as in Great Britain and West Germany. However, in spite of this, substantially all of our sales growth did come from foreign operations—with the greatest gains coming in the Japanese and Italian subsidiaries. During 1967, we also formed in Sweden, Svenska AMP AB, our eleventh subsidiary operating outside the United States.

In looking back on the year 1967, we wish to express our deep regret over the death of Mr. John B. Sollenberger, who had so ably served as a director for over ten years. Mr. Joseph T. Simpson and Mr. Francis H. Boland were added to the Boards of Directors. Mr. Simpson is Chairman of the Board and President of Harsco Corporation, a diversified metal products manufacturer whose worldwide operations are headquartered here in Harrisburg. Mr. Boland is Vice President, Manufacturing and Engineering, of ACF Industries Incorporated of New York City, a diversified manufacturer of automotive, railroad and industrial equipment. During 1967, the Board also elected Mr. Joseph D. Brenner to the corporate office of Vice President, Manufacturing. He was previously a divisional vice president. Three new divisional vice presidents, each with over 15 years of AMP experience, were also appointed: Mr. John E. Eberle, Connector and Component Products; Mr. Kenneth L. Neijstrom, General Products; and Mr. Willard A. Smith, Automatic Machine Products.

We increased our long-term debt to \$15.5 million, which is \$9.3 million more than last year. However, about \$6 million was invested in short-term marketable securities and is available for future expansion.

During the past year, both the technical and marketing development of our business moved forward at a greater pace than might be indicated by our very moderate sales growth. The 1967 economic "pause" has not diminished our enthusiasm for the long-range future potential for AMP. Our products span the entire range of electrical circuitry. Some of our newer products are ready to advance beyond the market introductory phase. Many of AMP's markets are expected to have above-average growth rates in the coming decade. There is a strong trend toward greater use of electrical and electronic equipment in the home, school, office, hospital, laboratory, industrial plants, transportation, military and other areas of modern life.

The immediate future as well as the long-term does look encouraging. We believe the current inventory cycle in certain of our markets has run its course and, if so, a strengthening in final demand should mean a further pickup in our new orders and shipments. We are optimistic that AMP will make further progress in 1968; however, the extent of the growth depends on the economic climate here and abroad.

We again want to express our appreciation to our employees, customers, and suppliers during a difficult year of adjustment which followed two years of extraordinarily rapid expansion. With their continued cooperation, AMP's future is as promising as it has ever been.

Sincerely,

U. A. WHITAKER

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Chairman of the Board

S. S. Auchincloss President and chief executive officer

March 8, 1968

## Ten Year Summary of Financial Data

(Dollars in thousands)

	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958
For The Year—										
NET SALES	\$146,469	\$141,817	\$110,942	\$91,676	\$82,835	\$73,233	\$61,163	\$55,158	\$47,555	\$31,378
COST OF SALES	85,813	81,072	62,000	50,322	45,987	39,245	33,130	30,356	25,217	16,743
GROSS INCOME	60,656	60,745	48,942	41,354	36,848	33,988	28,033	24,802	22,338	14,635
SELLING & GENERAL, ETC.	36,773	33,281	26,426	22,586	20,796	18,743	15,773	14,024	12,834	9,832
INCOME BEFORE INCOME TAXES AND LOSS ON DEVALUATION	23,883	27,464	22,516	18,768	16,052	15,245	12,260	10,778	9,504	4,803
INCOME TAXES	9,749	12,439	10,068	9,045	7,510	7,471	5,605	4,965	4,508	2,206
NET INCOME BEFORE LOSS ON DEVALUATION	14,134	15,025	12,448	9,723	8,542	7,774	6,655	5,813	4,996	2,597
Per Share <sup>(2)</sup>	\$1.16	\$1.23	\$1.02	80¢	70¢	64¢	55¢	48¢	41¢	21¢
LOSS ON DEVALUATION OF FOREIGN ASSETS	481									
NET INCOME	\$ 13,653	\$ 15,025	\$ 12,448	\$ 9,723	\$ 8,542	\$ 7,774	\$ 6,655	\$ 5,813	\$ 4,996	\$ 2,597
Per Share <sup>(2)</sup>	\$1.12	\$1.23	\$1.02	80¢	70¢	64¢	55¢	48¢	41¢	21¢
CASH DIVIDENDS	\$ 4,391	\$ 3,652	\$ 3,037	\$ 2,729	\$ 2,423	\$ 2,119	\$ 1,816	\$ 1,614	\$ 1,210	\$ 1,009
Per Share <sup>(2)</sup>	36¢	30¢	25¢	22¢	20¢	17¢	15¢	13¢	10¢	8¢
CAPITAL EXPENDITURES	\$ 15,977	\$ 17,136	\$ 11,817	\$ 6,195	\$ 7,891	\$ 5,141	\$ 3,507	\$ 4,524	\$ 3,099	\$ 2,060
DEPRECIATION	\$ 6,966	\$ 5,609	\$ 4,178	\$ 3,615	\$ 3,070	\$ 2,696	\$ 2,201	\$ 1,779	\$ 1,472	\$ 1,045
At December 31—										
WORKING CAPITAL	\$ 46,022	\$ 35,257	\$ 28,645	\$26,513	\$21,645	\$19,398	\$16,019	\$12,349	\$10,773	\$ 7,767
PROPERTY, PLANT AND EQUIPMENT, NET	\$ 47,068	\$ 38,713	\$ 27,543	\$20,125	\$17,839	\$13,165	\$10,927	\$ 9,757	\$ 7,152	\$ 5,128
LONG-TERM DEBT	\$ 15,534	\$ 6,200	\$ 400	\$ 500	\$ 600	\$ 700	\$ 800	\$ 900	\$ 1,000	\$ 1,100
SHAREHOLDERS' EQUITY	\$ 73,741	\$ 64,283	\$ 53,026	\$43,671	\$36,660	\$30,501	\$24,921	\$20,080	\$15,881	\$12,430

<sup>(1)</sup> The years 1959 through 1967 include all subsidiaries. In 1958, only the domestic subsidiaries are included.

Based on shares outstanding at the respective year-ends after retroactively giving effect to the 2-for-1 stock split in 1967 and the 3-for-1 stock split in 1961.

#### Financial

AMP'S FINANCIAL POSITION remained strong during 1967. For reasons already discussed, our level of operations remained relatively stable and placed no great demands on our financial resources. Our net profit margins remained relatively high—over 9% of sales—and net income, along with depreciation, generated sufficient cash flow to provide the necessary funds for our dividend payments and relatively high capital expenditures. The devaluation loss charged to net income was due principally to a revaluation or write-down of the working capital of our British and Spanish subsidiaries and, therefore, required no outlay of cash.

Shareholders' Equity increased 15% to \$73.7 million, principally through the reinvestment of earnings.

Working Capital also increased during 1967. It rose 31% to \$46.0 million at December 31, 1967, and reflected a stronger ratio of current assets to current liabilities—2.9 to 1 as compared to 2.2 to 1 at December 31, 1966.

Debt—Long-term debt increased \$9.3 million in 1967; \$7.8 million domestic and \$1.5 million foreign. However, current bank debt decreased \$3.5 million and marketable securities increased \$6.0 million. In total all debt both current and long term, net of marketable securities, declined slightly from \$14.3 million at the beginning of 1967 to \$14.2 million at year-end 1967. At this time, no further debt or equity financing is contemplated.

**CAPITAL EXPENDITURES** of \$16.0 million in 1967 were exceeded only by the record \$17.1 million spent during 1966. We expect to hold 1968 expenditures somewhat below 1967's since, after three years of substantial expansion, we are in a good position to generate and handle additional business.

**INCOME TAXES**—The decrease in our effective tax rate during 1967 was due largely to a reduction in the proportion of our income taxable at U.S. Federal and State normal rates. Conversely, in 1968 any increase in the proportion of income taxable at the U.S. normal rates would tend to increase our effective tax rate.

Although an increase in the U.S. Income Tax rate would affect income earned in the United States, it would not directly affect the portion of our income derived from non-U.S. sources until transferred to the United States.

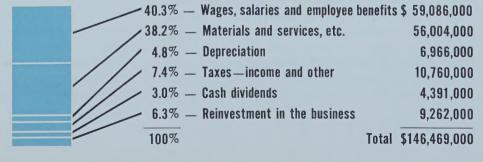
Neither the suspension nor the recent reinstatement of the Investment Tax Credit, and of certain accelerated depreciation methods allowed for tax purposes, have a significant effect on AMP's net income in any one year.

**THE SOURCE AND APPLICATION OF FUNDS** statement below provides a brief comparison of our financial activity for 1967 and 1966.

	1967	1966	
	(in thousands)		
Funds Were Provided From—			
Net income before			
devaluation loss	\$14,134	\$15,025	
Devaluation loss	481		
Net income	13,653	15,025	
Expenses not requiring current			
outlay of funds:			
Depreciation	6,966	5,609	
Deferred income taxes	(229)	322	
Others	1,278	583	
	21,688	21,539	
Increase in long-term debt	9,334	5,800	
Miscellaneous sources, net	131	61	
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	\$31,133	\$27,400	
AND WERE USED TO—			
Increase working capital	\$10,765	\$ 6,612	
Acquire plant and equipment	15,977	17,136	
Pay dividends to shareholders	4,391	3,652	
	\$31,133	\$27,400	
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of 10¢ per AMP Endorsed Share paid on March 1, 1968 (consisting of 7¢ from AMP and 3¢ from Pamcor), indicates an annual rate of 40¢ per share compared to 36¢ per share paid during 1967. This is the fifteenth consecutive annual increase and the tenth in succession of more than 10%.

## How the 1967 Sales Dollars were used



Above—High speed presses with progressive-station dies are forming terminals and contacts out of continuous strips of metal at the AMP-Holland plant—a scene typical of a number of AMP plants.

**Below**—Plastic molding operations at the Loganville, Pa. plant—injection molding machines for large volume production of connector housings and other precision parts from plastic resin materials.





### **Operations**

AMP became a leader in its field principally because it is engineering and quality oriented. It has always been dedicated to a marketing concept of complete customer service and, like most companies, has a certain unique combination of technical skills. These development and production capabilities, which have evolved through the years with the steady advance of technologies, are supported by the most modern facilities and equipment available. During the last three years, the increase in these capabilities kept pace with our rapid growth.

Equally important, the recent high level of capital expenditures laid the groundwork for further growth in these areas. Capital spending for these three years totaled over \$44.9 million as compared to the \$41.1 million earnings in that period. As a result, we increased our available facilities some 70% to 2.3 million sq. ft. of floor space today. Our net investment in fixed assets rose similarly to total \$47.1 million. The 1967 expenditures of \$16.0 million included significant expansion overseas. The plants in France and Japan were expanded substantially and new plants increased capacity in both Great Britain and Holland. The investment in application tooling loaned to customers also increased sizeably. Thus today, AMP's technical capabilities and various production capacities are generally in good position to help create and handle a substantial rise in our sales.

AMP's capabilities in developing new products are relatively well known. Perhaps we should review in more detail its production capabilities. The first production skill AMP developed was precision highspeed metal forming. This involves the design and construction of very closely-dimensioned and costly progressive-station dies. The growing number of these complex production dies, now in the thousands, is one of the foundations of our business. These dies must be run, without excessive wear, at very high speeds to produce intricate metal parts to extremely close tolerances.

Another one of our special skills is metal plating. With the growing demand for plated connections to give higher reliability, we have become one of the largest users of precious metals for electrical connections. We have pioneered in techniques such as continuous process coating of metal strip items, selective plating, and x-ray measurement of thicknesses. For many years we have also worked with plastics and have developed new formulations and combinations of materials. We produce a large volume of precision plastic parts using extrusion, transfer, and injection molding methods. As with the metal forming dies, complex molds must be designed and constructed to permit long-run production of good quality parts.

Still another ability of growing importance is the creation of specialized machinery—both for our manufacturing operations and for customer use to apply our products. This capability, for example, allows us to automate the assembly of small metal and plastic parts which is a vital part of the production of many AMP products.

Two aspects of the marketing program on the new COAXICON strip-form contacts and machine applicator—demonstrating at an electronics trade show and an advertisement for trade publications.

### Marketing

The year 1967 presented marketing problems quite different from the preceding two years of very rapid growth. During the two-year period of 1965 and 1966, AMP grew approximately 55% in both sales and earnings. In early 1967 we found that the leveling off in the domestic general economy placed many of our customers in an excess inventory position, particularly in three of our major markets—consumer goods, electrical equipment, and computers and data processing. Many customers had to cut back on their purchases of our products to bring inventories in line with their revised forecasts.

Under these changed conditions, we stepped up our marketing efforts in many ways to obtain deeper penetration of our established markets and wider application of present product lines. However, as another important part of a determined campaign to counter this inventory cycle and the softening economy, we also released new products and concentrated on their market development. In many cases this involved new and improved automated applicating equipment.

AMP's approach to long-term growth is based to a large extent on developing new products and successfully marketing them. Therefore, a look at some of the methods used to introduce a new product to customers may be helpful, both in reviewing 1967 and in assessing the future. A good example is a product line that became ready for introduction in late 1967—strip-form, pre-assembled coaxial contacts and associated tooling for automated application. Because it was



## Breakthrough: strip and terminate coax in 20 seconds

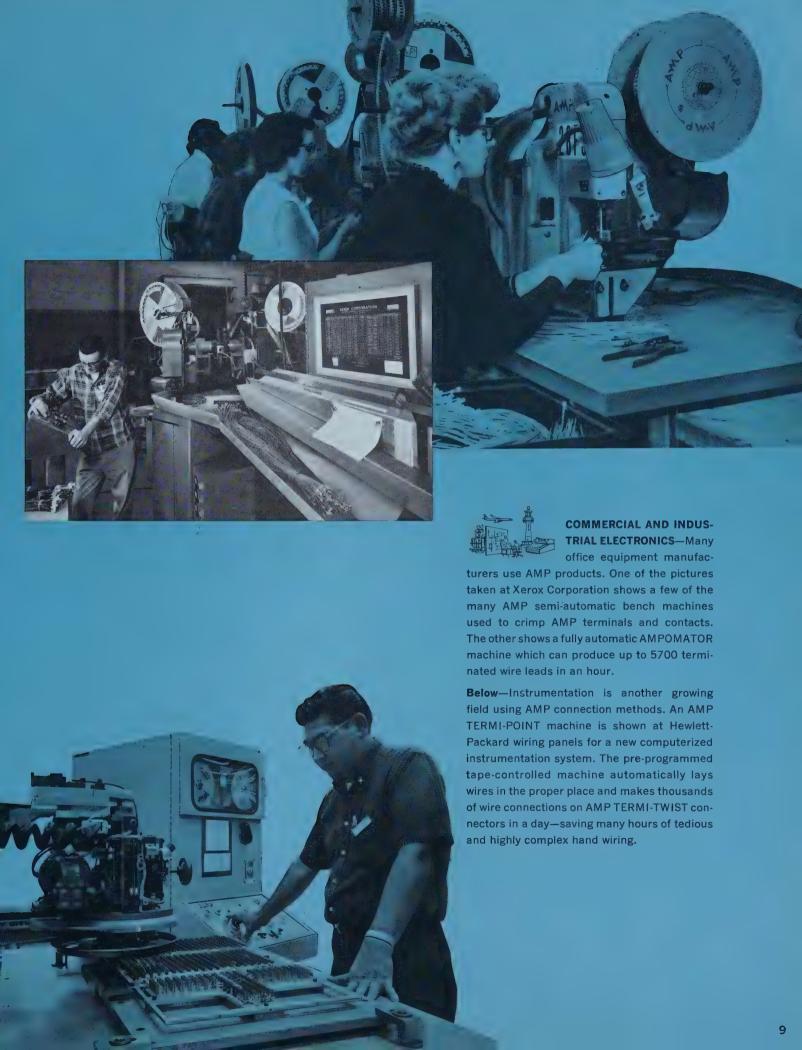


felt to be a distinct advance in the state-of-the-art of coaxial connections, an extensive marketing program was undertaken. This included a press conference for trade publication editors, demonstrations at major electronics trade shows, and special seminars, both at AMP and in the plants of certain customers with immediate interest.

A full description in our sales department publications gave the needed technical details to our sales personnel. Advertising and direct mail campaigns began to make the features of this new technique known to the industry. A short movie of the applicator tooling in action was filmed and prints distributed to each district office. The "AMP Institute" training school began work on the operating manual, slides, and other instructional materials needed to train AMP and customer personnel. This spring our MOBILAB traveling exhibits will include this product on their tours of customer plants. Papers will be presented by AMP engineers to technical societies interested in learning more about this new concept.

Finally (and most important in the long run), a worldwide force of sales engineers, backed-up by product and market specialists and field service engineers, began the steady, long, hard work of matching the new AMP product to the specific requirements of the original equipment manufacturers they service. To round out this worldwide service, a similar marketing process is carried out by completely separate marketing organizations that concentrate on the maintenance and repair users and the construction and utility markets.





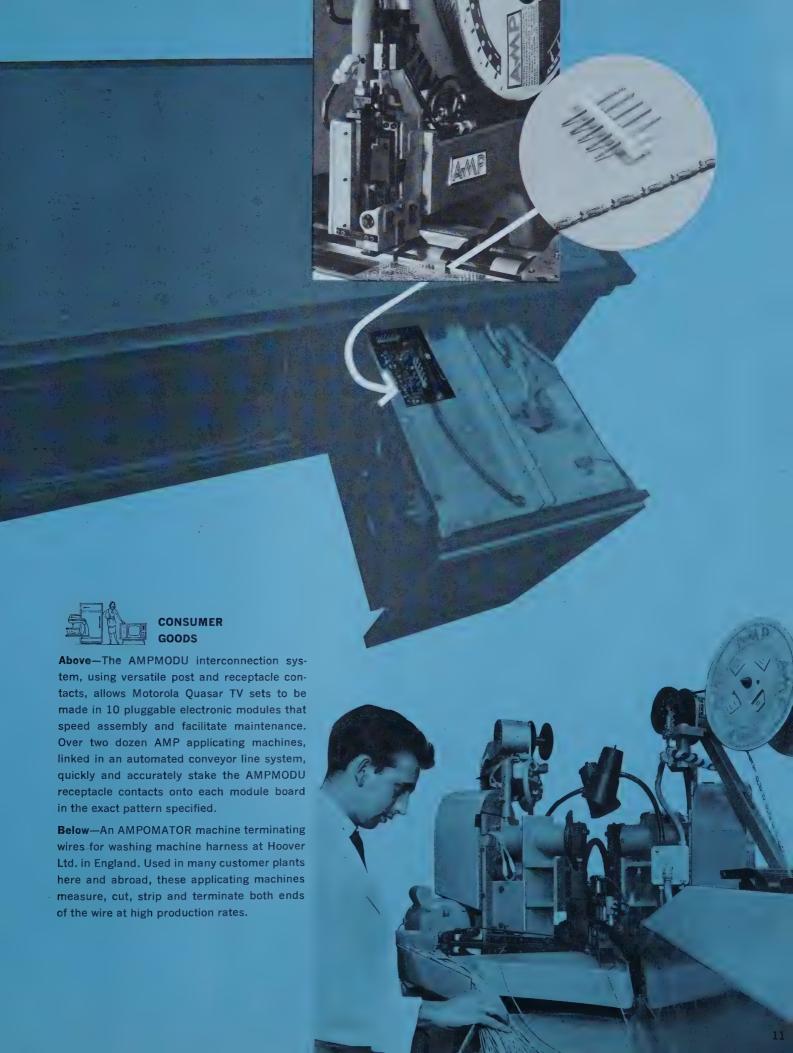


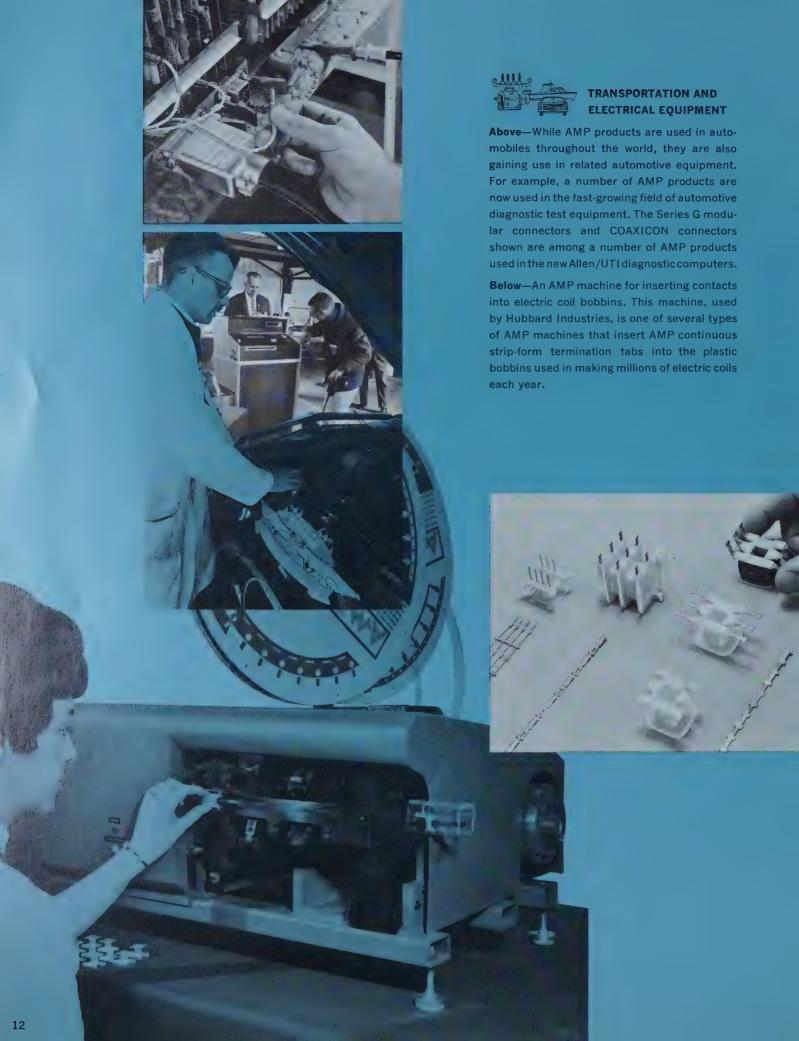


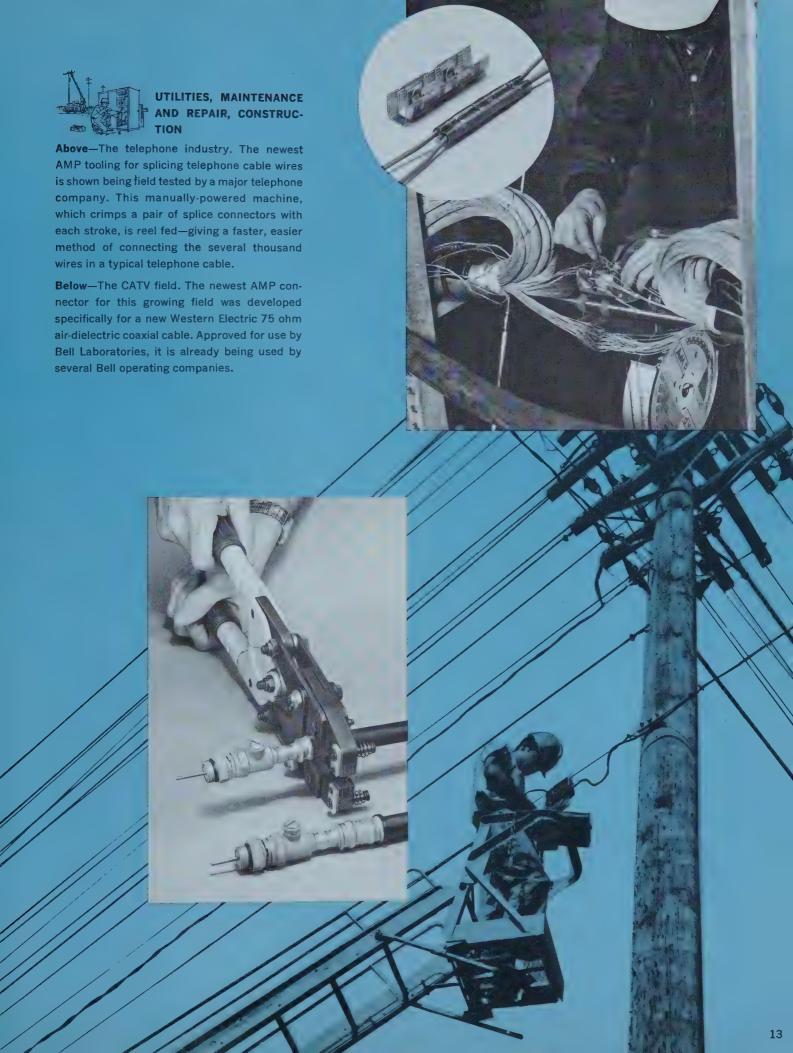


system in an Applied Dynamics Inc. computer. At right, included in the many AMP products used by Electronics Associates, Inc. are card readers that accept 80 column tabulating cards. These readers are used to program diode func-

tion generators in their computers.







Some of the more recent unsealed and hermetically-sealed, corona-resistant connectors for high voltage electronic circuitry.



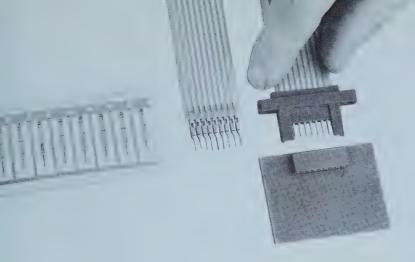
#### **Product Review**

As the front cover indicates, application tooling is becoming an increasingly important aspect of our business. In the last decade our capabilities in this direction have been extended dramatically-so that today's new product programs have a broad base on which to build. There is obviously a definite trend toward more automated application methods. However, the right degree of "automation" must be provided for each different market and for specific customers-e.g., a powder-cartridge actuated tool for electric utilities as contrasted with a numericallycontrolled, pre-programmed wiring machine for point-to-point wiring of electronic panels. In recent years, we have placed growing emphasis on tooling development. It accounts for a rising share of our expenditures for the creation and application of new and improved products and processes—which totaled over 11% of sales in 1967. As a result, an increasing proportion of our patent activity pertains to tooling. Tooling innovations constitute a significant portion of the over 1,100 U.S. and 6,700 corresponding foreign patents issued and pending. To achieve a high degree of effectiveness, the development of application tooling must be an integral part of each AMP new connection product program. In the paragraphs that follow, many newer products are discussed. The application tooling, while not always described or referred to, is always a vital part of our approach to solving the connection problems of customers.

The trends in the electrical and electronic industries toward miniaturization, modularization, mechanization, maintainability, and reliability are more evident in our latest products than ever before.

Terminals, Splices and Multiple Connectors— During the past year many products were added to the thousands of different AMP single and multiple connection devices already available for many sizes and types of wire and cable conductors used in diverse markets. A new, compact, environmentally-sealed wiring system was introduced as part of our TERMI-BLOK product family. It utilizes a single basic crimp pin contact that plugs into self-sealing modules that can be track-mounted or used as single or multiple splices. Designed primarily for aerospace, the modules are pictured on page 8 as used in the F-111 plane. Another type of modular commoning block system was developed for heavier-duty uses such as in switchgear equipment. To provide more automation to connections on motor brushes, on bobbins for electrical coils, and on reed switches, special continuous stripform contacts and AMP machines were made available. Rugged, plug-type contacts were designed specifically for programmable, student-operated teaching machines; and miniature receptacle-type contacts crimped on wires were offered as additional ways of connecting wires to AMPMODU, TERMI-POINT, or other types of posts. A new technique for terminating solid and stranded aluminum wire was developed, and more work was done on connecting fine wire. These are a few of the additions to the broadest array of single electrical connections offered by any one company.

AMP product lines usually start with a few sizes and configurations and are then expanded to seek out new applications and modified to meet technological changes. This is certainly apparent in many of our multiple connector lines. The successful "M" series connector, basically a wire-to-wire connector, now is

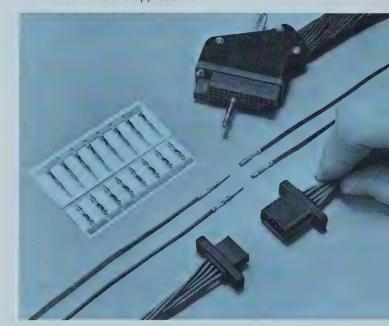


A new connector for flat flexible cable. The insulation-piercing contacts require no cable preparation and are offered in strip form for machine application.

available with posts for point-to-point wiring as well. MATE-N-LOK connectors, originally only in rectangular and lighter-duty versions, are now also offered in circular housings with gold-plated contacts for commercial electronics and in heavy duty, splash-proof types for the truck industry. The economical COMBO-LINE connector for consumer goods equipment, which started life as a circular multiple connector, is now available in rectangular housings and single disconnect versions also. A fairly new and fast-expanding group of special single and multiple connectors for highvoltage "power package" circuitry offers very reliable, corona-resistant connections. The versatile AMPMODU contacts, meeting very good reception as board-toboard interconnections (see page 11), were incorporated into housings as another type of low-cost multiple wire connectors. The "box contact" connector (shown on page 8), after quick acceptance for board-to-board connections for integrated circuitry, is now offered as a multiple wire connector as well.

A number of connector lines were introduced during the year. To facilitate wider use of flexible flat cable, a new connector offers an economical, reliable method that requires no cable preparation because of the insulation-piercing contacts. In another large field a new subminiature rack and panel connector, a high density "M" series, is the only one of this type to offer the labor-saving advantages of strip-form, machine-applied contacts. For the aerospace industry, AMP recently released a connector to meet ARINC specifications for an environmentally-sealed rack and panel connector with crimp contacts for easier attachment and higher reliability. The recent addition of this design should significantly advance our position as a supplier of airborne connectors.

A new family of subminiature connectors—the high density "M" series connector with strip-form contacts for machine application.





A connector for airborne electronic equipment. Recently introduced in response to ARINC specifications, it has crimp contacts and is environmentally-sealed.



Coaxial Cable Connectors—Ever since entering this field less than a decade ago, AMP has been an innovator offering concepts that permit quicker and more reliable connections. Applied by a single stroke of a hand tool that crimps both braid and center conductors simultaneously, the AMP pre-assembled, two-piece COAXICON connector construction gives distinct application advantages in various basic types of coax connectors we have developed. Our COAXICLAMP connectors were the first to use the crimping method for joining semi-rigid coaxial cable and are shown on page 8 as used in the F-111 plane. Recently they were approved for use on critical "down-hole" telemetry circuits in atomic testing. This successful connector line is now being extended to much smaller sizes of semi-rigid cables and to many commercial, as well as military, customers.

In what should prove to be a most significant breakthrough in coaxial connections, we released late in 1967 the first strip-form coax contacts and automated application method. The ferrule applicator machine strips the insulation from the center and outer braid conductors, slides the ferrule sleeve onto the cable, and flares out the braid ready for crimping. When the prepared cable is inserted in the crimping machine, a subminiature pre-assembled contact is automatically crimped onto the cable. One stroke crimps the ferrule, braid, and center conductor. The entire operation takes about 20 seconds, a fraction of the time required by other methods. With the growing use of coaxial cable, this mechanized method should fill a definite need for fast, uniform coaxial connections.

Electronic Packaging and Interconnection Systems—This is an increasingly important area for both AMP and the entire electronic industry. Existing product groups such as AMPMODU contacts (page 11), TERMI-POINT products (pages 9 and 10), miniature spring-loaded sockets, and "box contact" connectors (page 8) are expanding and gaining wider use. In addition, a number of other product lines further broaden our scope. A new printed circuit board edge connector with modified fork-type contacts now offers lower cost connections to the commercial electronics, consumer goods, and automotive markets. A different type of multiple connector was developed to give low-cost direct connections of wires to printed cir-



Connection products recently offered to the automotive industry.



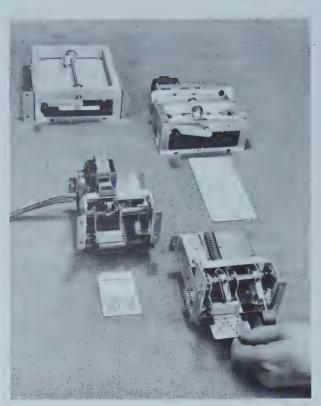
Two basic AMPACT tools, weighing only  $10\frac{1}{2}$  pounds and actuated by 3 sizes of powder cartridges, can apply 7 connector sizes to well over 100,000 combinations of power cable sizes. In the background are various types of connections—taps, stirrups,  $90^{\circ}$  adapters, lugs, and underground.

cuits. Additional socket or receptacle type contacts are being offered to facilitate plugging components into circuit boards, and several new interconnection systems will be available for use in commercial and military electronic equipment. One uses a unique subminiature contact that, like AMPMODU contacts, can provide "building block" versatility for a variety of different applications—but with much greater circuit density. Our activity in this field certainly indicates that we are advancing deeper and deeper into the challenging area of connections for transistorized and "integrated" circuitry—while at the same time preparing for the oncoming large-scale integration or "LSI" units of the future.

The Automotive Field—Recognizing the growing emphasis on better quality, greater safety, and more electrical and pneumatic conveniences in automobiles, AMP is proposing an increasing number of products specifically designed for this growing market. MATENLOK connectors, a brake warning light switch, and AMP-FIT fittings are among the more recent products already in use. A number of new products are now under evaluation. Included are splash-proof bulkhead

connector assemblies handling many circuits, a connector family for use in steering columns, moisture-proof connectors with heavy current-carrying capacity for trucks and buses, a different type of grounding terminal, and a connector system for ignition coils. Other proposals include connections for printed circuit boards, flat cable, and integrated circuit units. Success in many of these cases, as with most of our traditional products, will depend to a great extent on the AMP tooling that will provide this cost-conscious industry with automated, high-speed application methods.

The Electric Utility Field—We have gained wider acceptance of AMPACT connectors and are continuing our penetration of this market through release of larger connector sizes handling cables up to one million circular mils in cross sectional area. Coverage of this broad connection range is accomplished with the same powder cartridge-actuated tool with two interchangeable heads. Development work continues the expansion into the many versions needed to make full use of this effective concept—lug and in-line splice connectors, 90° adapters, stirrup assemblies



Newest credit and tabulating card readers that serve as programming systems for data input into electronic systems.

and hot stick accessories. While we have already adapted AMPACT connectors and tools to underground connections, we are also exploring other possible methods in response to the growing demand for underground utility connections.

The Telephone Industry—We are making good progress in this relatively new AMP market. "Second generation" tooling is being supplied extensively so that an increasing number of telephone companies can evaluate or adopt this faster, more reliable method of splicing telephone cable. Further advanced tooling, shown on page 13, is now being field tested in certain locations. It automatically feeds splice connectors in pairs from a reel and, with a single stroke, separately splices two different sets of wires. In addition, a self-sealing splice connector version extends the AMP technique to applications having adverse environmental conditions. Other areas of this large market are under scrutiny and should offer good potential for existing and new AMP products.

The CATV Field—The Community Antenna TV field, despite the many uncertainties on the immediate horizon, appears to offer good long-term growth potential for AMP connection products. We have a complete family of connectors for the cables commonly used in this field. A new connector, pictured on page 13, was released in late 1967. It was specifically developed for a new Western Electric 75 ohm air-dielectric coaxial cable, and is approved by Bell Laboratories for use on Bell System installations.

Card Readers—Several new versions of plastic badge and credit card readers, as well as new tabulating card readers, were released. The growing card reader family, along with a broadened line of universal, shielded, and coaxial patchcord systems, maintains our position as the leading independent producer of programming systems. Card readers in particular continue to hold out a bright promise for additional AMP participation in newly emerging systems in many diverse areas such as retail credit, vending, hospitals, test equipment, production and process controls, computers, security, dispensing, information retrieval, and communications.

Power Packages—AMP's capabilities for designing and building specialized high-voltage "power packages" were extended by development of more complex types of capacitor storage systems and pulse modulators. New pulse modulators were supplied for an advanced commercial radar system and power conversion units were developed for such diverse applications as anti-submarine warfare systems and computer display equipment. Increased emphasis is being placed on applying these capabilities to commercial markets.

A compact, high performance power supply unit, designed specifically for a commercial computer system.



TV Audio-Video Switching and Control Equipment—This is the newest market that we have explored. AMP equipment has now been installed in several network and large independent TV stations. This equipment is designed to facilitate the TV studio changeover to color broadcasting and to meet the trend toward more complex programming. The latest development is the Automatic Programmer which utilizes a small general purpose computer to offer greater broadcast programming automation than previously available.

Non-Electrical Products—AMP-FIT crimpable tube fittings offer a faster and more reliable method of connecting metal and plastic tubing. First offered for 1/4" and 3/8" diameter tubing, AMP-FIT products are finding growing use in a wide range of applications. Recent developments are extending this approach to smaller and larger sizes of tubing. In addition to a modular manifold system, disconnect couplings have added further versatility. One version of these couplings is now being used in Ford cars and trucks. Now that more exhaustive test data has been accumulated, AMP-FIT connectors are being recommended for pressures up to 300 pounds per square inch instead of the original conservative specification of 100 psi.

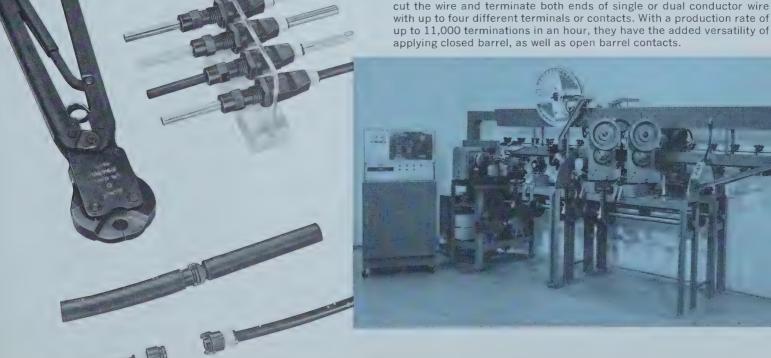
> Latest additions to the AMP-FIT crimpable tube fitting product family-couplings for

**Application Tooling**—As we have already indicated, application tooling is an increasingly vital accompaniment of all of our connection products. AMP machines released recently for customer use offer significantly more automated connection methods. The LM3 lead making machine, shown on this page, will cut, strip, and terminate both ends of a wire—and has the added versatility of applying closed barrel connection items as well as open barrel. The coaxial cable stripping and crimping units, pictured on page 16, offer a dramatically new degree of mechanization in the making of coax connections. The bobbin terminal insertion machine on page 12 is an example of our ability to automate the assembly of small metal and plastic parts. The "stripper-crimper" machine shown on the front cover should allow us to improve semiautomated connection methods in the airframe and computer industries, where cable harnesses are assembled before terminations are applied. The latest telephone cable splicing machine, depicted on page 13, is a rugged, lightweight, manually-operated unit that offers further labor savings in splicing cables in the communications field.

These machines, along with others equally complex, such as conveyor line setups of AMPMODU machines and numerically-controlled TERMI-POINT machines and a broad array of manual and power tools, make us confident we can provide effective tooling to meet any customer requirements.

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quick connection and disconnection of copper, aluminum and plastic tubing. The LM3 applicating machine—the newest AMP high-speed fully-automatic machine for making wire leads. These machines will measure and applying closed barrel, as well as open barrel contacts.





Combined

## AMP Incorporated 8

ARBETS	As of December 31			
	1967	1966		
Current Assets:				
Cash	\$ 3,340,000	\$ 2,425,000		
Marketable securities, at cost	6,285,000	330,000		
Receivables	23,010,000	21,992,000		
Inventories, at lower of cost, principally average, or market—				
Finished goods and work in process	\$ 13,883,000	\$ 14,884,000		
Purchased and manufactured parts	14,636,000	15,402,000		
Raw material	7,183,000	8,207,000		
Total inventories	\$ 35,702,000	\$ 38,493,000		
Prepaid expenses, etc	1,709,000	1,689,000		
Total current assets				
Dropping Pring in Fourier At				
PROPERTY, PLANT AND EQUIPMENT, At cost:	# 9.13E.000	# 2.0CC 000		
Land				
Buildings, leasehold improvements and rights				
Machinery and equipment, etc				
Machines and tools with customers				
	\$ 75,444,000			
Less—Accumulated depreciation				
Property, plant and equipment, net	\$ 47,068,000	\$ 38,713,000		
PATENTS, at a nominal value	\$ 1,000	\$ 1,000		
	\$117,115,000	\$103,643,000		

The accompanying notes to the combined finance

## alance Sheets

## ubsidiaries and Pamcor, Inc.

	As of December 31			
LIABILITIES	1967	1966		
Current Liabilities:  Current portion of long-term debt and bank loans Foreign bank obligations Accounts payable Accrued expenses Accrued taxes on income Total current liabilities	3,764,000 6,572,000 5,931,000 6,557,000	\$ 4,700,000 3,772,000 7,268,000 5,091,000 8,841,000 \$ 29,672,000		
LONG-TERM DEBT (Note 3)  DEFERRED INCOME TAXES  INVESTMENT TAX CREDIT AND DEFERRED INCOME  RESERVE FOR CONTINGENCIES APPLICABLE TO FOREIGN OPERATIONS	\$ 15,534,000 1,419,000 1,844,000 553,000	\$ 6,200,000 1,648,000 1,287,000 553,000		
SHAREHOLDERS' EQUITY:  AMP Incorporated—  Common stock, without par value—  Authorized 15,000,000 shares, issued 12,480,000 and 6,240,000 shares  Pamcor, Inc. (Note 4)—  Common stock, par value \$1.00 per share—  Authorized 50,000 shares, issued 20,000 shares		\$ 6,240,000		
Retained earnings (Note 3)		58,354,000 \$ 64,614,000		
Less—Treasury stock, at cost (Note 4)		331,000 \$ 64,283,000		
	\$117,115,000	\$103,643,000		

ments are an integral part of these statements.

## COMBINED STATEMENTS OF INCOME AND RETAINED EARNINGS

#### AMP INCORPORATED & Subsidiaries and Pamcor, Inc.

For the Years Ended December 31 1967 1966 \$146,469,000 \$141,817,000 NET SALES..... COST OF SALES. 85,813,000 81,072,000 \$ 60,656,000 \$ 60,745,000 Gross income..... SELLING, GENERAL AND ADMINISTRATIVE EXPENSES..... 35,482,000 32,856,000 Income from operations (after deducting depreciation of \$6,966,000 in 1967 and \$5,609,000 in 1966)...... \$ 27,889.000 \$ 25,174,000 1,291,000 425,000 Other Deductions, Net. Income before income taxes and loss on devaluation..... \$ 23,883,000 \$ 27,464,000 9,749,000 12,439,000 INCOME TAXES..... NET INCOME BEFORE LOSS ON DEVALUATION \$ 14,134,000 \$ 15,025,000 Per Endorsed Share \$1.16 \$1.23\* Loss on Devaluation of Foreign Assets (4¢ per Endorsed Share)...... 481,000 NET INCOME..... \$ 13,653,000 \$ 15,025,000 Per Endorsed Share..... \$1.12 \$1.23\* RETAINED EARNINGS, BEGINNING OF YEAR..... 46,981,000 58,354,000 \$ 72,007,000 \$ 62,005,000 LESS-Transfer to the Common Stock Account in connection with the 2-for-1 stock split as approved by the shareholders on April 27, 1967. 6,240,000 Cash dividends on common stock by: \$ 2,927,000 AMP Incorporated..... \$ 2,434,000 Pamcor, Inc..... 1,464,000 1,218,000 Total dividends (36¢ and 30¢ per Endorsed Share)..... \$ 4,391,000 \$ 3,652,000 \$ 10,631,000 3,652,000 RETAINED EARNINGS, END OF YEAR (Note 3) ..... \$ 61,376,000 \$ 58,354,000

Net income reflects net income of Pamcor, Inc. of \$1,535,000 in 1967 and \$1,624,000 in 1966, after elimination of affiliated company profit in inventory.

\*Restated to give effect to the 2-for-1 stock split in 1967.

The accompanying notes to the combined financial statements are an integral part of these statements.

#### NOTES TO COMBINED FINANCIAL STATEMENTS-DECEMBER 31, 1967

#### AMP INCORPORATED & Subsidiaries and Pamcor, Inc.

(1) Principles of Combination: The financial statements of Pamcor have been combined with those of AMP and its subsidiaries (all wholly owned), since each company is owned beneficially by identical shareholders. Pamcor has no subsidiaries and no affiliates other than AMP and its subsidiaries. By trust agreement, Bankers Trust Company holds Pamcor common stock for the benefit of AMP common shareholders whose certificates are endorsed to show they are entitled to a proportionate interest in the Pamcor common stock held in the Trust. This interest is not transferable separately.

During 1967, all the undeposited 4,125 Pamcor common shares as of December 31, 1966, were deposited in the Trust; and, Bankers Trust Company exchanged Endorsed Shares of AMP common stock for the 2,574,000 unendorsed shares outstanding at December 31, 1966.

Intercompany and affiliated company accounts and transactions, including unrealized profits in inventory, were eliminated in consolidating and combining the financial statements of AMP, its subsidiaries and Pamcor.

(2) Foreign Operations: As a result of including the accounts of all foreign operations, the combined financial statements as of December 31, 1967, include assets amounting to \$33,217,000 and liabilities amounting to \$15,739,000 or net assets of \$17,478,000. The additional net income, as a result of including these foreign operations, amounted to \$4,203,000 for the year 1967 and \$4,053,000 for the year 1966.

The accounts of the foreign operations have been converted to United States dollars at the official rates of exchange and there are no significant unrealized gains and losses thereon except for the loss on devaluation of foreign assets shown in the combined statement of income in 1967. The availability of remittances to the parent company is subject to the currency restrictions of the various countries. No provision has been made in consolidation for U. S. income taxes payable when dividends are received from foreign subsidiaries since AMP would receive a foreign tax credit which would substantially eliminate all U.S. income taxes on such dividends. The reserve (\$553,000) for contingencies applicable to foreign operations is considered adequate to cover unusual and extraordinary losses, if any, that may be incurred by the foreign subsidiaries.

(3) Long-Term Debt: Long-term debt at December 31, 1967, represents a 51/2% note of \$5,000,000 payable to a bank under a revolving credit agreement, a 61/2% note of \$9,000,000 due to an institutional lender, and a foreign 20-year annuity loan of \$1,534,000 at 6% interest.

The revolving credit agreement permits AMP to borrow up to \$6,000,000 at prime rate and expires March 15, 1969, unless AMP, at its option, elects to fund such borrowing at

1/4% above the prime rate into a term loan payable thereafter in equal semi-annual installments to March 15, 1971. The interest rate in either case will not exceed 5½% nor be less than 4½%. The agreement states that without the prior consent of the lender AMP and its domestic subsidiaries will not incur other future indebtedness in excess of \$25,000,000.

The agreement covering the amount due to the institutional lender provides for the repayment in equal annual installments over 10 years (including \$1,000,000 due in 1968 and classified as a current liability) or, at the option of AMP, over 5 years without penalty. This agreement contains restrictions with respect to additional borrowings, maintenance of minimum working capital and certain other items. Payment of cash dividends and the purchase of the Company's common stock, etc., are limited to \$25,789,000 plus the entire net income of AMP and its domestic subsidiaries and Pamcor for 1968 and subsequent years.

(4) Stock Plus Cash Bonus Plan and Treasury Stock: All of the Endorsed Shares held in the treasury (1967-273,559; 1966-307,688 [1966 restated for two-for-one stock split]) are reserved for the payment of stock bonuses under the incentive Stock Plus Cash Bonus Plan adopted by the Board of Directors. The number of shares to be distributed is determined by the appreciation in the market value of the Company's stock. During the year ended December 31, 1967, 46,929 shares were distributed under the provisions of the Plan. For awards granted before and outstanding on December 31, 1967, and based on the market value as of that date, 197,880 shares would be distributed in the years 1968 to 1977

AMP Incorporated also holds in its treasury at a cost of \$30,000 all of the 3,000 issued shares of Pamcor's preferred stock (authorized 4,000 shares, 50¢ cumulative, voting, par value \$10.00 per share).

- (5) Employee Retirement Plans: The Companies' employee retirement plans include insured contributory plans, a trusteed, non-contributory plan, and a single lump sum indemnity payment plan. During the two years ended December 31, 1967, provisions aggregating \$1,463,000 in 1967 and \$1,019,000 in 1966 were made to cover current service cost on all plans plus amortization of past service cost over ten years on one of the plans. The cost of retirement benefits for past service has been fully funded except for this one plan which amounted to \$987,000 at December 31, 1967. The net assets of the plans exceeded the present value of vested benefits as of December 31, 1967.
- (6) Depreciation Method: Depreciation is computed by applying principally the straight-line method to individual items in order to apportion the cost of the item evenly over its estimated useful life.

#### AUDITORS' REPORT

To the Shareholders and Boards of Directors, AMP Incorporated and Pamcor, Inc.:

We have examined the combined balance sheet of AMP INCORPORATED (a New Jersey corporation) and subsidiaries and PAMCOR, INC. (an affiliated Puerto Rican corporation) as of December 31, 1967 and the related combined statements of income and retained earnings for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. Financial statements of the foreign subsidiaries were not examined by us, but we were furnished with reports thereon of other auditors. We have previously examined and reported on the financial statements for the preceding year.

In our opinion, based upon our examination and upon the reports of other auditors, the accompanying combined balance sheet and combined statements of income and retained earnings present fairly the combined financial position of AMP Incorporated and subsidiaries and Pamcor, Inc. as of December 31, 1967, and the results of their combined operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

arthur andersen Ho



#### SUBSIDIARIES

(all wholly-owned and included in combined results)

American Pamcor, Inc. Valley Forge, Pa.

Aircraft-Marine Products of Canada, Ltd. Toronto, Canada

AMP de Mexico, S.A. Mexico City, D.F. Mexico

AMP de France
Paris, France
AMP-Holland N.V.
's-Hertogenbosch, Holland
Aircraft-Marine Products (Great Britain) Ltd.,
London, England

AMP Italia S.p.A., Turin, Italy Deutsche AMP G.m.b.H., Frankfurt, Germany AMP Española, S.A., Barcelona, Spain

Svenska AMP A B Stockholm, Sweden

AMP (Japan), Ltd., Tokyo, Japan Australian AMP Pty. Limited Sydney, Australia

# AMP INCORPORATED

HARRISBURG, PA.

Pamcor, Inc.

SAN JUAN, P.R.



# THE ANNUAL SHAREHOLDERS' MEETINGS

The annual shareholders' meetings of AMP Incorporated and Pamcor, Inc. are held the fourth Thursday of April. Formal notices, proxy statements and forms of proxy will be mailed on or about March 22, 1968 to shareholders of record on March 8, 1968 as to the April 25, 1968 meetings at 2:00 P.M. and 3:00 P.M. respectively at 15 Exchange Place, Jersey City, New Jersey.

#### TRANSFER AGENTS

Bankers Trust Company 16 Wall Street New York, N.Y. 10015

The Corporation Trust Company 15 Exchange Place Jersey City, N.J. 07102

#### REGISTRAR

Morgan Guaranty Trust Company of New York 30 West Broadway New York, N.Y. 10015

#### LISTED

New York Stock Exchange

#### BOARD OF DIRECTORS

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President and chief executive officer

F. H. BOLAND
Vice President,
Manufacturing and Engineering
ACF Industries, Incorporated

R. M. Brumfield
Chairman & chief executive officer
Potter & Brumfield Division,
American Machine & Foundry
Company

\*C. J. Fredricksen

Vice President-Treasurer

F. C. HIXON
President
Midland Investment Company

\*G. A. Ingalls

Vice Chairman of the Board

C. L. Keister
Chairman of the Board
Dauphin Deposit Trust Company

J. T. SIMPSON
Chairman of the Board
& President
Harsco Corporation

\*U. A. Whitaker

Chairman of the Board

\*Member of Executive Committee of the Board of Directors

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U. A. WHITAKER

Chairman of the Board

G. A. Ingalls
Vice Chairman of the Board

S. S. Auchincloss

President and chief executive officer

J. D. Brenner
Vice President, Manufacturing

C. J. Fredricksen

Vice President-Treasurer

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Vice President, Director of Merchandising

S. Wilson Pollock
Vice President, Engineering and Research

Solon L. Rhode, Jr.
Secretary, General Legal Counsel

F. S. Kugle
Controller

DIVISIONAL VICE PRESIDENTS

(of AMP Incorporated only):

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Connector and Component Products

HERMAN C. HAAS

Domestic Subsidiaries

Marshall M. Holcombe General Patent Counsel

Franklin E. Howell Industrial Sales

Kenneth L. Neijstrom General Products

Willard A. Smith
Automatic Machine Products

















